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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,061	11/04/2003	Gian Andrea Giovanardi	25808	3094
20529	7590	05/26/2005		
NATH & ASSOCIATES 1030 15th STREET, NW 6TH FLOOR WASHINGTON, DC 20005			EXAMINER ASHLEY, BOYER DOLINGER	
			ART UNIT 3724	PAPER NUMBER

DATE MAILED: 05/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/700,061	Applicant(s) GIOVANARDI ET AL	
	Examiner Boyer D. Ashley	Art Unit 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 March 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 3-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

1. This office action is in response to applicant's amendment filed 3/7/05, wherein claims 1, 3-10 were amended and claim 2 was canceled. The allowability indicated in the previous office action is henceforth withdrawn in light of the newly discovered references. Any inconvenience is regretted.

### *Drawings*

2. The drawings were received on 3/7/05. These drawings are approved.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 and 3-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuggle et al., U.S. Patent 4,364,435, in view of Nakamura et al., U.S. Patent 5,027,591, or Hoffman, U.S. Patent 5,483,733.

Tuggle et al. discloses the same invention as claimed including, e.g., a motor (20); a tool head (16); a tubular arm (12) fitted at a first end to a casing of the motor and supporting the tool head at a second end (see Figure 1); a propeller shaft (30) housed inside the arm and angularly integral with a drive shaft (Tuggle et al. includes a clutch between the motor and the shaft 30 and therefore Tuggle et al. includes a drive shaft between the motor and the clutch) of the motor; a bevel gear (generally 16) housed inside the head and defined by a first hub (the portion defined by the bearings 44/48

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shown in Figure 3) coaxial with the propeller shaft and having a first bevel gear (60) and a second hub (defined by the bearings 16 in Figure 3) having a second bevel gear (56) meshing with the first bevel gear; a tool shaft (49) angularly integral with the second hub (see Figure 3); a first adaptor (62, see column 4, lines 38-40) for making said first hub and said propeller shaft angularly integral (see Figure 3), wherein the adaptor includes a first portion (on the right side in Figure 3) in which a hole is formed for engaging the a portion of the propeller shaft (see Figure 3); and a second end engaged with the first bevel gear in the first hub.

Tuggle et al. is silent as to how the second end is engaged with the first beveled gear and therefore, lacks the externally threaded portion screwed inside a threaded hole formed in the first hub. However, Nakamura et al. and Hoffman both disclose that it is old well known in the art to use externally threaded drive shafts with internally thread hubs of bevel gears for the purpose of facilitating attachment between the hub and the drive shaft. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use an externally threaded portion on the adaptor of Tuggle et al. and an internally threaded portion on the first hub of Tuggle et al. in order to facilitate quick connections between the drive shaft and gears of Tuggle et al.

It should be noted that the phrase "angularly integral" has not been defined by the specification or the claims. Because the expression is ambiguous the examiner, in keeping with the broadest reasonable interpretation approach, is interpreting the phrase to mean that the propeller shaft is connected to the motor shaft at an angle of 180 degrees. It should further be noted that Nagashima does not specifically recite a drive

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shaft in addition to the propeller shaft; however, Nagashima does disclose that there is a clutch positioned between the propeller shaft and the motor (see column 2, lines 49-55) and therefore, there must be a drive shaft in addition to the propeller shaft as is known in the art.

As to claim 3, the modified device of Tuggle et al. includes a tool head a casing (40) with two tubular portions (as shown in Figure 3) coaxial with the first and second hubs respectfully. The second tubular portion of the modified device of Tuggle et al. housings the second hub and a large portion of the tool shaft (see Figure 3). The first tubular portion of the modified device of Tuggle et al. housing the first hub and fitted to the second axial end of the arm by means of a second adapter (64/72/74/76).

As to claim 4, the second adapter of the modified device is tubular as shown in Figure 3 and fitted to the second axial end of the arm.

As to claims 5-8, the modified device of Tuggle et al. includes a edge bent outwards to form a rim/tabs (see Figure 3) and a laterally open tubular member (see Figure 3). The tabs include a through hole and bolt (64/72/74/76).

### ***Response to Arguments***

5. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

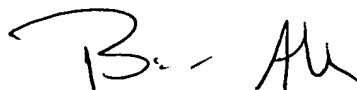
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7. The prior art references cited but not relied upon were cited to shown similar devices in the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boyer D. Ashley whose telephone number is 571-272-4502. The examiner can normally be reached on Monday-Thursday 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N. Shoap can be reached on 571-272-4514. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Boyer D. Ashley  
Primary Examiner  
Art Unit 3724

BDA  
May 24, 2005